Combinatorics and Probability Seminar

Intersecting families of sets are typically trivial

Lina Li (Waterloo)

Abstract: A family of subsets of $\{0,1\}^n$ is intersecting if every pair of its members has a non-trivial intersection. Determining the structure of large intersecting families is a central problem in extremal combinatorics. Frankl-Kupavskii and Balogh-Das-Liu-Sharifzadeh-Tran independently showed that for $n >= 2k + c\sqrt{k \ln k}$, almost all k-uniform intersecting families are stars. Significantly improving their results, we show that the same conclusion holds for $n >= 2k + 10 \ln k$. Our proof uses the graph container method and the Das-Tran removal lemma. This is joint work with Jozsef Balogh, Ramon I. Garcia and Adam Zsolt Wagner.

Monday, March 8 at 3:00 PM in Zoom